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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/727,590	12/04/2000	Inoue Yoshiaki	Q61987	3639

7590 03/28/2005

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EXAMINER	
THOMPSON, JAMES A	

ART UNIT	PAPER NUMBER
2624	

DATE MAILED: 03/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/727,590	YOSHIAKI, INOUE	
	Examiner	Art Unit	
	James A Thompson	2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *02 November 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☐ Claim(s) _____ is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-13 and 15* is/are rejected.

7)☒ Claim(s) *14* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *02 November 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 02 November 2004 have been fully considered but they are not persuasive.

Regarding page 10, lines 3-7: In response to applicant's argument that "the goal and way of achieving the goal are totally different between the present invention and Sakamoto", a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In a claim drawn to a process of making, the intended use must result in a manipulative difference as compared to the prior art. See *In re Casey*, 370 F.2d 576, 152 USPQ 235 (CCPA 1967) and *In re Otto*, 312 F.2d 937, 939, 136 USPQ 458, 459 (CCPA 1963).

Applicant has not demonstrated any structural difference between the claimed invention and the prior art. Applicant is also reminded that claim 1 is rejected based on a combination of Sakamoto (US Patent 5,315,407), Delabastita (US Patent 5,828,463) and Bouton (*Inside ADOBE® Photoshop® 5*, by Gary David Bouton, Barbara Mancuso Bouton, and Gary Kubicek, New Riders Publishing, copyright 1998, pages 46-49); and not Sakamoto alone.

Regarding page 10, lines 8-15: A correction in the exact displacement of the halftone coordinates (column 9, lines 26-35 of Sakamoto) is a correction of the phase since the exact alignment of the halftone dot coordinates determines how all of

the halftone cells will be aligned in the grid. This is demonstrated in figures 9 and 10 of Sakamoto in which the grid for a color in U-V space is properly aligned. The fact that the precise coordinate values of a halftone correspond to the phase is also demonstrated in Applicant's own specification on page 33, lines 18-27 and figures 13(a) and 13(b) of said specification.

Regarding page 10, line 16 to page 14, line 21: Applicant discusses Applicant's own interpretation of the prior art, particularly Sakamoto and Delabastita, on page 10, line 16 to page 12, line 2, but does not discuss what Applicant believes are the differences between the prior art cited in the first office action, dated 25 June 2004.

In response to applicant's argument that "if the two methods were combined as suggested by the Examiner, it would produce one screen of a multi-tone image whose halftone dots are spatially different from the halftone dots of the remaining screens" (page 12, lines 3-10 of Applicant's arguments) and applicant's argument "the Examiner's shifting of the meaning of the claimed phase selection section is inconsistent and improper" (page 14, lines 9-10 of Applicant's arguments), the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981).

The teachings of Delabastita would have suggested to one of ordinary skill in the art at the time of the invention:

> "producing a plurality of halftone dot data representative of a plurality of monochromatic images in which a color image is separated (column 14, lines 15-19 of Delabastita), by applying threshold matrices associated with the multi-tone level image data representative of said monochromatic images to the multi-tone level image data representative of said monochromatic images (column 14, lines 18-22 of Delabastita), **with a phase (column 9, lines 11-13 of Delabastita) determined on a fixed basis, said fixed basis being specifically the tone of the image (figure 12-13 and column 10, lines 39-45 of Delabastita).**"

as discussed below in the arguments regarding claims 1 and 10 and on page 4 of said first office action. The teachings in Delabastita regarding phase can clearly be applied with respect to the teachings in Sakamoto regarding phase. The mere fact that the precise types of phase taught in both references have minor variations with respect to one another is immaterial. The teachings of Delabastita can be therefore be combined with Sakamoto, both for the reasons given above, and for the reasons discussed in detail on pages 4-5 of said first office action.

Further, the teachings of Bouton are clearly combinable with the teachings of Sakamoto and Delabastita. As discussed below in the arguments regarding claims 1 and 10 and on page 5 of said first office action:

> "Bouton discloses using a handler ('amount slider') to variably adjust image properties, as shown in figure 2.5 on page 48 of Bouton. The handler is clearly shown where the mouse pointer is adjusting the lightness of the image. Two other handlers are shown which can be used to adjust saturation and hue."

An input image, by its very nature, has fixed settings and properties. The mere application of an amount slider to vary

the properties of an input image is trivial in the art and clearly well within the abilities of one of ordinary skill in the art at the time of the invention. Sakamoto in view of Delabastita already teaches, as is clearly set forth on pages 2-5 of said first office action, that the phase can be adjusted. Using an amount slider so that a user can adjust the phase is a trivial modification to the overall system. Applicant is further directed to page 5, line 10 to page 6, line 2 of said first office action, which discusses this modification in greater detail.

On page 13, lines 3-11 of Applicant's arguments, Applicant attempts to cite some alleged differences between the present application and the prior art. Firstly, Applicant is respectfully reminded that Sakamoto is not relied upon alone to teach each and every aspect regarding the phase control section. Sakamoto in combination with Delabastita and Bouton fully teach the phase control section. Thus, comparing the present application with only Sakamoto is improper. Further, Applicant is reminded that, even if the teachings of Sakamoto in view of Delabastita and Bouton does not match precisely with Applicant's understanding of the claimed invention, Examiner is required to give the broadest reasonable interpretation of the claims consistent with the specification (see MPEP §904.01).

In response to applicant's argument on page 14, lines 11-21 that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made,

and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

Sakamoto in view of Delabastita teach that the phase is *controllable*, as discussed in detail in the arguments regarding claims 1 and 10, claim 1 being the claim upon which claim 8 depends. There is no requirement that Sakamoto or Delabastita teach the motivation to combine Sakamoto in view of Delabastita with Bouton. The motivation to combine Sakamoto in view of Delabastita with Bouton is clearly given in Bouton, as discussed on page 11, line 17 to page 12, line 2 of said first office action. Again, as discussed above, using an amount handler, such as the one taught in Bouton, to modify a property of an image is a trivial modification for one of ordinary skill in the art.

Regarding page 15, line 1 to page 16, line 6: In response to applicant's argument that "[T]he color correction of Usami is not designed for the output images disclosed by Sakamoto and Delabastita. Usami discloses a method of creating a color proof that approximates a printed color document", the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981).

Further, Examiner respectfully submits that a color proof (figure 1(CPb) of Usami) is, by definition, a printed document

(column 4, lines 37-42 of Usami). The color proof is not the printed document that is desired as the result of the completion of the proofing system operations taught by the system of Usami. However, said color proof is a printed document in and of itself.

Applicant argues that "since Delabastita already corrects for the color based on the tone of the image (image density), a further correction based on the dot area percentage is not needed." *Examiner responds* that this is mere speculation on the part of the Applicant. Dot area percentage correction is a different form of correction that image density correction and is used for different purposes. Further, Applicant does not show how the physical structure of the claimed invention differs from that which is cited in the prior art.

Regarding page 16, lines 8-11: The rejections of claims 11-15 based on prior art is discussed in detail below.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1-6, 8, 10-12 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sakamoto (US Patent 5,315,407) in view of Delabastita (US Patent 5,828,463) and Bouton (*Inside ADOBE® Photoshop® 5*, by Gary David Bouton, Barbara Mancuso

Bouton, and Gary Kubicek, New Riders Publishing, copyright 1998, pages 46-49).

Claim 1 discloses a halftone dot producing apparatus. Claim 10 discloses a halftone dot producing programs storage medium storing a halftone dot producing program. Claim 1 and claim 10 both comprise the same means and are therefore discussed together.

Regarding claims 1 and 10: Sakamoto discloses a halftone dot producing apparatus (figure 13 of Sakamoto). Figure 14 of Sakamoto shows further details of said apparatus (column 6, lines 18-19 of Sakamoto).

Said apparatus comprises a phase selection section (figure 14(104,106,108); column 10, lines 48-51; and column 11, lines 3-10 of Sakamoto) for calculating a phase (Uc,Vc) (column 9, lines 26-35 of Sakamoto) between at least a first threshold matrix of said threshold matrices and a first monochromatic image represented by a multi-tone level image data to which said first threshold matrix is applied (figure 7 and column 7, lines 14-26 of Sakamoto). Each vertex comprising the halftone dot region, and thus the halftone screen, are shifted to one of the corresponding adjacent lattice points (column 7, lines 14-18 of Sakamoto). This warping is used to correct the addresses of the recording pixels (column 7, lines 22-23 of Sakamoto). The corrected addresses are then used to compare the halftone screen with the image data to determine which recording pixels are exposed (column 7, lines 23-26 of Sakamoto), which is, by definition, halftoning the original monochromatic image.

Said apparatus further comprises a phase control section (figure 14(110) of Sakamoto) for controlling a relative phase between said first threshold matrix and said first monochromatic

image to implement the phase calculated by said phase selection section (column 11, lines 39-44 of Sakamoto). The coordinate correction unit (figure 14(110) of Sakamoto) performs the actual coordinate correction based upon the amount of correction that has been calculated (column 11, lines 39-44 of Sakamoto).

Said apparatus further comprises a data producing section (figure 13(32) of Sakamoto) for producing halftone data representative of a monochromatic image by applying a threshold matrix associated to multi-tone level image data representative of said monochromatic image (column 11, line 67 to column 12, line 2 of Sakamoto) with the phase controlled by said phase control section (column 11, lines 38-44 of Sakamoto).

Sakamoto does not disclose expressly that said phase is selected; and that said data producing section produces a plurality of halftone dot data representative of a plurality of monochromatic images in which a color image is separated, by applying threshold matrices associated with multi-tone level image data representative of monochromatic images excepting said first monochromatic image, of said plurality of multi-tone level image data, to the multi-tone level image data representative of said monochromatic images excepting said first monochromatic image, of said plurality of multi-tone level image data, with a phase determined on a fixed basis.

Delabastita discloses producing a plurality of halftone dot data representative of a plurality of monochromatic images in which a color image is separated (column 14, lines 15-19 of Delabastita), by applying threshold matrices associated with the multi-tone level image data representative of said monochromatic images to the multi-tone level image data representative of said monochromatic images (column 14, lines 18-22 of Delabastita),

with a phase (column 9, lines 11-13 of Delabastita) determined on a fixed basis, said fixed basis being specifically the tone of the image (figure 12-13 and column 10, lines 39-45 of Delabastita).

Sakamoto and Delabastita are combinable because they are from the same field of endeavor, namely the reduction and prevention of image artifacts. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to apply a threshold matrix with the phase controlled by said phase control section to the first monochromatic multi-tone image data (such as black), as taught by Sakamoto, and apply threshold matrices to a plurality of associated monochromatic multi-tone image data (such as cyan, magenta, and yellow) with a phase determined on a fixed basis, as taught by Delabastita. The motivation for doing so would have been that each color component must be properly positioned relative to the other color components in order to print correctly (column 1, lines 24-32 of Delabastita). Therefore, if the phase is specifically controlled for one color, the phase associated with the other colors must be fixed based on that controlled phase value. Therefore, it would have been obvious to combine Delabastita with Sakamoto.

Sakamoto in view of Delabastita does not disclose expressly that said phase is selected.

Bouton discloses using a handler ("amount slider") to variably adjust image properties, as shown in figure 2.5 on page 48 of Bouton. The handler is clearly shown where the mouse pointer is adjusting the lightness of the image. Two other handlers are shown which can be used to adjust saturation and hue.

Sakamoto in view of Delabastita is combinable with Bouton because they are from the same field of endeavor, namely image data processing and presentation. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to adjust and select the phase taught by Sakamoto using an amount slider as taught by Bouton to adjust the phase value. The motivation for doing so would have been to improve the image quality (page 46, lines 4-6 of Bouton). Therefore, it would have been obvious to combine Bouton with Sakamoto in view of Delabastita to obtain the invention as specified in claims 1 and 10.

Further regarding claim 10, Sakamoto discloses that the apparatus can be embodied as software programs stored on a computer-readable medium (column 11, lines 11-13 of Sakamoto).

Regarding claim 2: Sakamoto does not disclose expressly that said phase selection section selects any one of a plurality of phases between a phase in which a Rosette pattern of a clear center appears on a color image represented by said plurality of halftone dot image data, and a phase in which a Rosette pattern of a dot center appears on the color image represented by said plurality of halftone dot image data.

Delabastita discloses a plurality of phases between a phase in which a Rosette pattern of a clear center appears on a color image represented by said plurality of halftone dot image data (figures 2a-2c and column 7, lines 57-64 of Delabastita), and a phase in which a Rosette pattern of a dot center appears on the color image (column 7, lines 47-54 of Delabastita) represented by said plurality of halftone dot image data (column 8, lines 3-4 Delabastita). For a shadow area, a phase is used such that

the dot center appears on the color image (column 7, lines 47-54 of Delabastita).

Sakamoto and Delabastita are combinable because they are from the same field of endeavor, namely the reduction and prevention of image artifacts. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to vary the Rosette pattern from clear-centered to dot-centered based on image properties, as taught by Delabastita. The motivation for doing so would have been to better approximate the color balance of the image (column 7, lines 52-54 of Delabastita). Therefore, it would have been obvious to combine Delabastita with Sakamoto.

Sakamoto in view of Delabastita does not disclose expressly that any of said plurality of phases, and a phase in which a Rosette pattern of a dot center appears on the color image represented by said plurality of halftone dot image data, can be selected.

Bouton discloses using a handler ("amount slider") to variably adjust image properties, as shown in figure 2.5 on page 48 of Bouton. The handler is clearly shown where the mouse pointer is adjusting the lightness of the image. Two other handlers are shown which can be used to adjust saturation and hue.

Sakamoto in view of Delabastita is combinable with Bouton because they are from the same field of endeavor, namely image data processing and presentation. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to adjust and select the phase taught by Sakamoto, between a clear-centered and dot-centered Rosette pattern, as taught by Delabastita, using an amount slider as taught by Bouton to

adjust the phase value. The motivation for doing so would have been to improve the image quality (page 46, lines 4-6 of Bouton). Therefore, it would have been obvious to combine Bouton with Sakamoto in view of Delabastita to obtain the invention as specified in claim 2.

Regarding claim 3: Sakamoto discloses that said phase control section (figure 14(110) of Sakamoto) corrects the U-V coordinates so that said U-V coordinates can be transformed to screen coordinates (column 11, lines 39-44 of Sakamoto). The addresses of the recording pixels are corrected on the basis of the relative displacements (column 7, lines 21-27 of Sakamoto). Said correction therefore controls a phase (Uc,Vc) (column 11, lines 39-44 of Sakamoto) of said first threshold matrix for said first monochromatic image (column 7, lines 21-27 of Sakamoto).

Regarding claim 4: Sakamoto discloses that said phase control section (figure 14(110) of Sakamoto) corrects the U-V coordinates so that said U-V coordinates can be transformed to screen coordinates (column 11, lines 39-44 of Sakamoto). The addresses of the recording pixels are corrected on the basis of the relative displacements (column 7, lines 21-27 of Sakamoto). Said correction therefore controls a phase (Uc,Vc) (column 11, lines 39-44 of Sakamoto) of said first monochromatic image to said first threshold matrix (column 7, lines 21-27 of Sakamoto).

Regarding claim 5: Sakamoto discloses an image producing section (figure 13(23) of Sakamoto) for producing multi-tone level image data (column 10, line 61 to column 11, line 2 of Sakamoto). Comparing the image signal with the screen pattern data to generate exposure-control data (column 10, lines 61-65 of Sakamoto) is, by definition, halftoning. The image producing section (figure 13(23) of Sakamoto) uses the exposure-control

data to record the halftone image (column 10, line 67 to column 11, line 2 of Sakamoto), thus creating a multi-tone level image.

Sakamoto does not disclose expressly that said image producing section produces said multi-tone level image data for evaluating a Rosette pattern; and a display section for displaying a Rosette pattern on an image represented by an assembly of halftone dot image data obtained by applying the threshold matrices to the multi-tone level image data produced by said image producing section.

Delabastita discloses evaluating Rosette patterns (column 7, lines 47-54 of Delabastita). Rosette patterns were evaluated to determine which conditions (column 7, lines 47-49 of Delabastita) and dependencies produce better results (column 7, lines 51-54 of Delabastita). The recorder grid (figure 14(81) of Delabastita) outputs the image data (column 11, lines 52-58 of Delabastita), which therefore allows the Rosette patterns (column 11, lines 37-42 of Delabastita) to be evaluated.

Delabastita further discloses a display section (figure 14(81) of Delabastita) for displaying a Rosette pattern (column 11, lines 37-42 of Delabastita) on an image represented by an assembly of halftone dot image data obtained by applying the threshold matrices (screen function values) to the multi-tone level image data produced by said image producing section (column 11, lines 52-58 of Delabastita). The image data is output by said display section (recorder grid) (column 11, lines 52-58 of Delabastita), which includes the Rosette pattern that is on the image (column 11, lines 37-42 of Delabastita).

Sakamoto and Delabastita are combinable because they are from the same field of endeavor, namely the reduction and prevention of image artifacts. At the time of the invention, it

would have been obvious to a person of ordinary skill in the art to use the display to display and evaluate a Rosette pattern, as taught by Delabastita. The motivation for doing so would have been to better approximate the color balance of the image (column 7, lines 52-54 of Delabastita). Therefore, it would have been obvious to combine Delabastita with Sakamoto to obtain the invention as specified in claim 5.

Regarding claim 6: Sakamoto discloses that said image producing section (figure 13(23) of Sakamoto) produces multi-tone level image data (column 10, line 61 to column 11, line 2 of Sakamoto).

Sakamoto does not disclose expressly that said image producing section produces multi-tone level image data representative of uniform images having uniform values throughout whole image areas as multi-tone level image data for evaluating a Rosette pattern.

Delabastita discloses multi-tone level image data (figure 10a and column 7, lines 23-26 of Delabastita) representative of uniform images having uniform values throughout whole image areas (column 9, lines 19-23 of Delabastita) as multi-tone level image data for evaluating a Rosette pattern (column 9, lines 15-19 of Delabastita), which is in accordance with the invention of Delabastita (column 7, lines 49-52 of Delabastita).

Sakamoto and Delabastita are combinable because they are from the same field of endeavor, namely the reduction and prevention of image artifacts. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to use the image producing section taught by Sakamoto to evaluate Rosette patterns with image having uniform values throughout whole image areas, as taught by Delabastita. The

motivation for doing so would have been better approximate the color balance of the image (column 7, lines 52-54 of Delabastita). Therefore, it would have been obvious to combine Delabastita with Sakamoto to obtain the invention as specified in claim 6.

Regarding claim 8: Sakamoto discloses a phase (Uc,Vc) (column 11, lines 39-44 of Sakamoto) between said first threshold matrix for said first monochromatic image (column 7, lines 21-27 of Sakamoto).

Sakamoto in view of Delabastita does not disclose expressly a handler for selecting a phase between said first threshold matrix for said first monochromatic image, and said phase selection section selects the phase in accordance with an operation of said handler.

Bouton discloses a handler ("amount slider") which variably adjusts image properties, as shown in figure 2.5 on page 48 of Bouton. The handler is clearly shown where the mouse pointer is adjusting the lightness of the image. Two other handlers are shown which can be used to adjust saturation and hue. Said handler, shown in figure 2.5 on page 48 of Bouton, selects value of the image property in accordance with an operation of said handler, specifically by dragging the amount slider to the desired value (page 48, lines 1-4 of Bouton).

Sakamoto in view of Delabastita is combinable with Bouton because they are from the same field of endeavor, namely image data processing and presentation. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to variably adjust the phase taught by Sakamoto using the handler and the associated operations performed upon said handler, as taught by Bouton. The motivation for doing so would

have been to improve the image quality (page 46, lines 4-6 of Bouton). Therefore, it would have been obvious to combine Bouton with Sakamoto in view of Delabastita to obtain the invention as specified in claim 8.

Regarding claims 11 and 12: The arguments regarding claims 1 and 10 are incorporated herein. The handler ("amount slider" shown in figure 2.5 on page 48 of Bouton) that variably adjusts image properties, such as the phase taught by Sakamoto in view of Delabastita, is clearly operated by a user. In the example specifically shown in figure 2.5 on page 48 of Bouton, a pointing device is used so that a user can variably adjust the image properties. Therefore, the phase, taught by Sakamoto in view of Delabastita, is user selected, as taught by Bouton.

If the phase is user selected, then said phase is not tone dependent.

Further regarding claim 15: Since the overall system is a system that manipulates digital image data, and said phase selection section selects a phase, as recited in claim 1 and discussed above, then it is inherent that said phase selection section selects any one of a plurality of phases. For a digital system, there are only a finite number of possibilities from which to choose, based on the number of available bits for the selection of the phase. Therefore, said phase selection system selects any one of a plurality of phases.

4. Claims 7 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sakamoto (US Patent 5,315,407) in view of Delabastita (US Patent 5,828,463), Bouton (*Inside ADOBE® Photoshop® 5*, by Gary David Bouton, Barbara Mancuso Bouton, and

Gary Kubicek, New Riders Publishing, copyright 1998, pages 46-49), and Usami (US Patent 5,781,709).

Regarding claim 7: Sakamoto in view of Delabastita and Bouton does not disclose expressly a dot area percentage selection section for selecting a dot area percentage; and dot area percentage control means for controlling a relative value between thresholds constituting the threshold matrixes and a density level of the uniform image in such a manner that monochromatic images of the dot area percentage selected by said dot area percentage selection section can be obtained.

Usami discloses a dot area percentage selection section (figure 1(11(portion)) of Usami) for selecting a dot area percentage (column 6, lines 40-42 of Usami). The image processing method disclosed by Usami is performed by a general color printing system (figure 1(11) and column 4, lines 37-42 of Usami). The dot area percentage selection section is therefore the circuitry and embodied software that performs the step of selecting a dot area percentage by which to vary the color image data (column 6, lines 40-42 of Usami).

Usami further discloses dot area percentage control means (figure 1(11(portion)) of Usami) for controlling a relative value between thresholds constituting the threshold matrices and a density level of the uniform image (column 6, lines 42-50 of Usami) in such a manner that monochromatic images of the dot area percentage selected by said dot area percentage selection section can be obtained (column 6, lines 47-55 of Usami). The dot percentage is set by the color printing system (column 6, lines 40-42 of Usami) which then measures the tristimulus (density) values (column 6, lines 42-46 of Usami) and produces corrective data (column 6, lines 46-50 of Usami) which can then

be addressed and used as input data for printing (column 6, lines 50-55 of Usami). The image processing method disclosed by Usami is performed by a general color printing system (figure 1(11) and column 4, lines 37-42 of Usami). The dot area percentage control means is therefore the circuitry and embodied software that performs the step of controlling the relative values between the threshold matrix values and the corresponding density levels.

Sakamoto in view of Delabastita and Bouton is combinable with Usami because they are from the same field of endeavor, namely image data processing. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to include the dot area percentage selection section and dot area percentage control means taught by Usami in order to control the dot area percentage of the images to be output by the image processing system of Sakamoto in view of Delabastita and Bouton. The motivation for doing so would have been to correct the color of the resultant image output (column 4, lines 37-41 and column 6, lines 34-37 of Usami). Therefore, it would have been obvious to combine Usami with Sakamoto in view of Delabastita and Bouton to obtain the invention as specified in claim 7.

Regarding claim 9: Sakamoto in view of Delabastita does not disclose expressly a handler for controlling a dot area percentage, and said dot area percentage selection section selects the dot area percentage in accordance with an operation of said handler.

Bouton discloses a handler ("amount slider") which variably adjusts image properties, as shown in figure 2.5 on page 48 of Bouton. The handler is clearly shown where the mouse pointer is

adjusting the lightness of the image. Two other handlers are shown which can be used to adjust saturation and hue. Said handler, shown in figure 2.5 on page 48 of Bouton, selects the value of the image property in accordance with an operation of said handler, specifically by dragging the amount slider to the desired value (page 48, lines 1-4 of Bouton).

Sakamoto in view of Delabastita is combinable with Bouton because they are from the same field of endeavor, namely image data processing and presentation. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to variably adjust the image data properties of the images processed by the apparatus taught by Sakamoto in view of Delabastita, by using the handler and the associated operations performed upon said handler, as taught by Bouton. The motivation for doing so would have been to improve the image quality (page 46, lines 4-6 of Bouton). Therefore, it would have been obvious to combine Bouton with Sakamoto in view of Delabastita.

Sakamoto in view of Delabastita and Bouton does not disclose expressly that said handler controls a dot area percentage; and said dot area percentage selection section selects the dot area percentage in accordance with an operation of said handler.

Usami discloses that said dot area percentage selection section (figure 1(11(portion)) of Usami) selects a dot area percentage by which to vary the color image data (column 6, lines 40-42 of Usami).

Sakamoto in view of Delabastita and Bouton is combinable with Usami because they are from the same field of endeavor, namely image data processing. At the time of the invention, it

would have been obvious to a person of ordinary skill in the art to use the handler, taught by Bouton, to control the dot area percentage and have said dot area percentage selection section select said dot area percentage, as taught by Usami, in accordance with the operation of said handler. The motivation for doing so would have been to be able to select a dot area percentage and thus correct the color of the resultant image output (column 4, lines 37-41 and column 6, lines 34-37 of Usami). Therefore, it would have been obvious to combine Usami with Sakamoto in view of Delabastita and Bouton to obtain the invention as specified in claim 9.

5. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sakamoto (US Patent 5,315,407) in view of Delabastita (US Patent 5,828,463), Bouton (*Inside ADOBE® Photoshop® 5*, by Gary David Bouton, Barbara Mancuso Bouton, and Gary Kubicek, New Riders Publishing, copyright 1998, pages 46-49), and Williams (US Patent 5,223,953).

Regarding claim 13: Sakamoto in view of Delabastita does not disclose expressly that an angle screen of halftone dots in at least one of the plurality of halftone dots is selected by a user.

Bouton discloses a plurality of amount sliders for user selection of image properties (figure 2.5 and page 48, lines 1-4 of Bouton).

Sakamoto in view of Delabastita is combinable with Bouton because they are from the same field of endeavor, namely image data processing and presentation. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to include a plurality of amount sliders, as taught by

Bouton, to adjust a plurality of different image properties. The motivation for doing so would have been to improve the image quality (page 46, lines 4-6 of Bouton). Therefore, it would have been obvious to combine Bouton with Sakamoto in view of Delabastita.

Sakamoto in view of Delabastita and Bouton does not disclose expressly that an angle screen of halftone dots in at least one of the plurality of halftone dots is selected by a user.

Williams discloses an angle of a screen of halftone dots (column 5, lines 53-55 of Williams) in at least one of the plurality of halftone dot data (figure 5 and column 5, lines 55-66 of Williams), wherein said angle is adjustable (column 6, lines 22-28 and column 2, lines 11-13 of Williams).

Sakamoto in view of Delabastita and Bouton is combinable with Williams because they are from the same field of endeavor, namely image data processing. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to adjust the angle of the screen of halftone dots, as taught by Williams, manually via a user adjusting an amount slider, as taught by Bouton. The motivation for doing so would have been that a variable halftone screen angle selection is desirable since the appropriate screen for halftoning an image is based on the image original, the scanner, and the printer characteristics (column 1, lines 27-32 of Williams). Therefore, it would have been obvious to combine Williams with Sakamoto in view of Delabastita and Bouton to obtain the invention as specified in claim 13.

Allowable Subject Matter

6. Claim 14 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

7. The following is a statement of reasons for the indication of allowable subject matter:

Examiner has not found in the prior art the specific threshold table selection section recited in claim 14, particularly a threshold table selection section that selects a threshold table based on all three criteria of (1) a predetermined dot shape, (2) a predetermined line number, and (3) a predetermined angle of halftone dots. Further, Examiner has not found a combination of references which would render all of the limitations of claim 14, including all of the limitations of claim 1 from which claim 14 depends, obvious to one of ordinary skill in the art at the time of the invention, particularly the limitations involving said threshold table selection section recited in claim 14.

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS

of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James A Thompson whose telephone number is 703-305-6329. The examiner can normally be reached on 8:30AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David K Moore can be reached on 703-308-7452. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

James A. Thompson
Examiner
Art Unit 2624

JAT
10 March 2005

THOMAS D. LEE
PRIMARY EXAMINER